President William Clinton announced the 1997 recipients of the National Medal of Technology, the nation's highest honor for technological achievement. "This year's Medalists are exemplary leaders in research, innovation and imagination," President Clinton said. "Their achievements have opened new scientific frontiers, enabled new products, and created new capabilities that have transformed our lives and that will shape our future."

■ Norman R. Augustine

The 1997 National Medal of Technology winners are:

■ *Norman R. Augustine*
Chairman, Lockheed Martin Corporation

Citation
For visionary leadership in maintaining the United States' preeminence in the aerospace industry and for identifying and championing solutions to the many challenges in civil and defense systems.

Contribution Category
Technology Management

Norman Augustine's career has spanned more than 30 years of government and private sector leadership. Along the way he has pioneered numerous technological innovations that have helped make America's fighting forces the best equipped in the world.

Starting as chief engineer in 1958 with Douglas Aircraft Company, Augustine moved to the Defense Department in the mid-1960s to become Assistant Director of Defense Research and Engineering. Leaving for a stint in the private sector with LTV Missiles and Space Company, he rejoined government in the 1970s as the Assistant Secretary of the Army. Augustine joined Martin Marietta in 1977, rising to chief executive officer and chairman. He led this technology-intensive enterprise through bold mergers and acquisitions that culminated in the creation of one of the world's leading diversified technology companies, Lockheed Martin.

Augustine has chaired numerous national panels tasked with identifying solutions to the complex challenges America has faced in maintaining its technological leadership.

He received his BS and MSE from Princeton University in aeronautical engineering. He was elected to Phi Beta Kappa, Tau Beta Pi and Sigma Xi. He holds numerous honorary doctor degrees and awards including the Princeton University James Madison Medal, the National Academy of Engineering's Bueche Award, the American Institute of Aeronautics and Astronautics' Goddard Medal, the American Association of Engineering Societies' National Engineering Award, the Institute of Electrical and Electronics Engineers' Carlton Award, the Department of Defense Distinguished Service Medal, and the Air Force Exceptional Service Medal.

"These five medalists deserve our highest tribute. Their work and vision embodies the vital link between technology and innovation, principles that remain top priorities of this Administration."

William M. Daley,
Commerce Secretary

■ *The Team of Vinton Gray Cerf and Robert E. Kahn*

Vinton Gray Cerf
Senior Vice President of Data Architecture, MCI

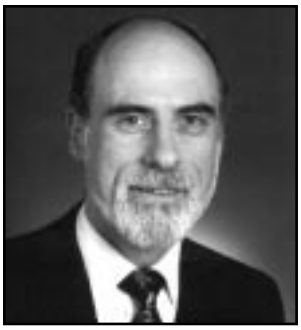
Robert E. Kahn
President, Corporation for National Research Initiatives

Citation
For creating and sustaining development of Internet Protocols and continuing to provide leadership in the emerging industry of internetworking.

Contribution Category
Technology Transfer

When Vinton Cerf and Robert Kahn published their seminal paper on internetworking via packet switching technology in 1974, few shared their vision of a world where computer systems communicated with each other. Computer systems were proprietary. Distributed computing was still years away and personal computers did not exist. The first local area network was still an experiment called Ethernet. Yet Cerf and Kahn had the vision to realize the tremendous potential of computers communicating and the know- how and perseverance to make such a vision a reality. Toward that end, they developed internetworking standards that led to the birth of the Internet. They believed that wide-area networks could interconnect by means of "gateways" linking nets and an end-to-end protocol called "Transmission Control Protocol (TCP)."

In the decade that followed, they led the development of a working TCP and refined it into TCP/IP (Internet



■ Vinton Gray Cerf

Protocol). They also assured its rapid dissemination by using TCP/IP as a standard for the U.S. defense computer network (ARPANET). Cerf and Kahn pioneered not just a technology, but an economical and efficient way to transfer that technology. They steadfastly maintained that their internet working protocols would be freely available to anyone. TCP/IP was deliberately designed to be vendor-independent to support networking across all lines of computers and all forms of transmission.

TCP/IP enabled the creation of a network of networks known as the "Internet." Free access to those standards allowed the marketplace to elevate the Internet from an obscure research tool into an internetwork boasting some 30 million users worldwide.

Vinton Cerf has a BS in mathematics and computer science from Stanford University, and an MS and PhD in computer science from the University of California at Los Angeles. His career has spanned government work for the then-secret Defense Advanced Research Projects Agency to his current position as Vice President of Data Architecture for MCI. He has been honored with the Association for Computing Machinery Systems Software Award for TCP/IP, induction into the Datamation Hall of Fame; the Electronic Frontier Foundation Pioneer Award; the Institute of Electrical and Electronics Engineers' Koji Kobayashi Award for TCP/IP and the UNIFORUM Award.

Robert Kahn has a BEE in electrical engineering from City College of New York and an MA and PhD in electrical engineering from Princeton University. From 1972 to 1986, he was the Program Manager and Deputy Director of the U.S. Defense Advanced Research Projects Agency Information Processing Techniques Office. In

■ Robert E. Kahn

1986, he became President of the Corporation for National Research Initiatives. He has been honored with the American Federation of Information Processing Society's Harry Goode Memorial Award; the President's Award from the Association for Computing Machinery; the Public Service Award from Computing Research Board, and twice he has received the Secretary of Defense Meritorious Civilian Service Award.

■ *Ray M. Dolby*
Chairman of the Board, Dolby Laboratories, Inc.

Citation
For inventing technologies that have dramatically improved sound recording and reproduction, fostering their adoption worldwide, and maintaining a vision that has kept the world listening.

Contribution Category
General Product and Process Innovation; Technology Transfer

Few individuals have had more effect on sound recording and reproduction for the past 30 years than American inventor Ray Dolby. From the cassettes we enjoy in our car stereos to the latest digital sound in movie theaters, the world hears music and sound better because of Ray Dolby and the company he founded, Dolby Laboratories Inc. of San Francisco.

■ Ray M. Dolby

Since 1965, consumers have purchased more than six-hundred million audio products that incorporate Dolby technologies, with Dolby sound earning more than $250 million in royalty income. Over 90 percent of that money has come from outside the U.S. More than 6,000 feature films have been released with Dolby encoded soundtracks, and more than 33,000 movie theaters worldwide have installed the equipment to play them.

Dolby did not gain household name recognition overnight. It took vision to recognize and effectively demonstrate new recording and listening formats. It took the decision to manufacture professional audio equipment on the one hand, and to license consumer products on the other. And it took setting up not only R&D, engineering and manufacturing facilities, but also unique licensing and film sound programs. All of which has made the Dolby trademark synonymous with audio excellence.

"I am delighted and honored. It is satisfying to be able to make contributions that people find useful and desirable."

Ray M. Dolby

■ Robert S. Ledley

■ *Robert S. Ledley*
Professor, Georgetown University Medical Center

Citation
For pioneering contributions to biomedical computing and engineering, including inventing the whole-body CT scanner, and for his role in developing automated chromosome analysis for prenatal diagnosis of birth defects.

Contribution Category
General Product and Process Innovation

Robert Ledley has applied emerging computer technology to meet the rapidly evolving needs of biomedicine. He invented and manufactured the first whole-body computerized scanner to visualize internal organs. This technology revolutionized diagnostic radiology and medical imaging, positioned the U.S. first in the field, and set standards for computerized tomographic scanners.

Ledley also developed the instrumentation and computer algorithms for automating chromosome analysis used in diagnosing genetic diseases. These advancements initiated the field of automated chromosome analysis for prenatal diagnosis of birth defects and, most recently, for detecting human genetic traits such as the propensity for cancer.

Ledley has an MA in mathematical physics from Columbia University and a DDS in Dentistry from New York University. His career spans 47 years and began in 1950 as a First Lieutenant in the U.S. Army Dental Corps. He has worked as a physicist and mathematician for the National Bureau of Standards, a research analyst and instructor for Johns Hopkins University, a staff member of the National Research Council of the National Academy of Science; and President and Chief Executive Officer for Digital Information Services Corporation.

He currently serves as the President of the National Biomedical Research Foundation; Chairman of the Board of Directors for Potomac Medical Systems; and Director of Medical Computing and Biophysics and Professor of the Department of Radiology and Physiology and Biophysics for Georgetown University Medical School. Ledley holds over 60 patents in the U.S. and worldwide and has authored numerous articles and books. He was inducted into the Inventors Hall of Fame in 1990 and received the Gold Medal for Meritorious Service to Georgetown University that same year. He is a Fellow of the New York Academy of Sciences and a Founding Fellow of the American College of Medical Informatics.■

"I hope that the Medal will demonstrate how important technology is to the U.S. and will stimulate young people to enter the fields of engineering, computers and biotechnology."

Robert S. Ledley

Ray Dolby holds a BS in electrical engineering from Stanford University and a PhD in physics from Cambridge University. He has been honored with an Academy Award of Merit ("Oscar"), as well as scientific and engineering awards from the Academy of Motion Picture Arts and Sciences. He is a Fellow and Past President of the Audio Engineering Society in which he has been awarded the Silver and Gold Medals. Among other honors, Dolby has also received the National Academy of Recording Arts and Sciences "Grammy" Award and the National Academy of Television Arts and Sciences "Emmy" Award.

About the National Medal of Technology

The National Medal of Technology recognizes American innovators whose vision, intellect, creativity and sheer determination have made profound and lasting contributions to our economy and quality of life.

Established by Congress in 1980 as part of the Stevenson-Wydler Technology Innovation Act, the Medal is awarded for technological breakthroughs resulting in the creation of new or significantly improved products, processes or services. The President of the United States first presented this prestigious award in 1985.

A distinguished, independent committee representing both private and public sectors evaluates the merits of all candidates nominated through an open, competitive solicitation process. The U.S. Department of Commerce's Office of Technology Policy is responsible for administering the National Medal of Technology. Committee recommendations are forwarded to the Secretary of Commerce who then makes recommendations to the President of the United States for final decision.

Each year the National Medal of Technology awards are presented by the President in a joint White House ceremony with the National Medals of Science.

For application and nomination information please call:
202.482.5572

For press inquries please call:
202.482.8321 or 202.482.1397

Visit the National Medal of Technology on the Web at:
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